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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/881,986	06/14/2001	Jerome R. Bellegarda	04860.P2657	7797

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EXAMINER	
ZHONG, CHAD	
ART UNIT	**PAPER NUMBER**
2152	

DATE MAILED: 12/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/881,986	BELLEGARDA ET AL.	
	Examiner	Art Unit	
	Chad Zhong	2154	

-- The MAILING DATE of this communication appears on the cov r sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-7,9-20,22-31,33-43 and 45-48* is/are rejected.

7)☒ Claim(s) *8,21,32 and 44* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/12/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-48 are presented for examination.

2. Applicant is required to update the status (pending, allowed, etc.) of all parent priority applications in the first line of the specification. The status of all citations of US filed applications in the specification should also be updated where appropriate.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-8, 10-20, 22-32, 34-44, 46-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aronson et al. (hereinafter Aronson) in view of Bellegarda et al. (hereinafter Bellgarda), "A Novel Word Clustering Algorithm Based On Latent Semantic Analysis", 1996.

5. As per claim 1, Aronson teaches the claim substantially as claimed wherein a method for filtering messages comprising:

determining a first anchor corresponding to a first group of messages and a second anchor corresponding to a second group of messages (see for example, Col. 5, lines 50-67, wherein the first group and the second group anchors are represented by various types of filters that are available.);

comparing the message corresponding to the incoming message with at least one of the first anchor and the second anchor to obtain a first comparison value and a second comparison value (Col. 6, lines 44-

67; Col. 7, lines 1-6, wherein the weighted values are the values after the filtering process by the two perspective stages in parallel); and

filtering the incoming message based on the first comparison value and the second comparison value (Col. 7, lines 1-6).

6. Aronson does not explicitly teach:

Semantic anchors and determining a vector corresponding to an incoming message.

Bellgarda teaches Semantic and determining a vector corresponding to an incoming message (see for example, pg 173 vector representation) for the advantages of systematic convergence.

7. It would have been obvious to one of ordinary skill in this art at the time of invention was made to combine the teaching of Aronson and Bellgarda because they both dealing message filtering. Furthermore, the teaching of Bellgarda to allow

Semantic and determining a vector corresponding to an incoming message

would improve the mapping ability for Aronson's system by converting the messages themselves into vector forms and use latent semantic analysis based upon existing clustering techniques.

8. As per claim 2, Aronson teaches a method as in claim 1, wherein said second group of messages are defined as unsolicited messages, and said first group of messages are defined to not be unsolicited messages (Col. 5, lines 50-67, wherein the groups are defined as spam and non-spam types).

9. As per claim 3, Aronson teaches a method as in claim 2, wherein the first semantic anchor and the second semantic anchor are vectors obtained using a training message corpus comprising previously received unsolicited messages and previously received messages defined not to be unsolicited messages (see for example Col. 6, lines 4-5, wherein the newly incoming messages are capable of updating the message history, thus enables machine learning). Furthermore, Bellgarda teaches the training message

corpus, having a pool of existing messages, see for example, pg 173. It would have been obvious to combine the two references for the same rational as claim 1 above.

10. As per claim 4, Aronson does not explicitly teach a method as in claim 3, wherein the training message corpus is used to obtain a matrix W comprising a word distribution factor.

11. Bellgarda teaches the above see for example pg 173. It would have been obvious to combine the two related references for the same rational as claim 1 above.

12. As per claim 5, Aronson does not explicitly teach a method as in claim 4, wherein the matrix W is used to generate the first semantic anchor and the second semantic anchor using singular value decomposition.

13. Bellgarda teaches the above sections see for example pg 173. It would have been obvious to combine the two related references for the same rational as claim 1 above.

14. As per claim 6, Aronson teaches a method as in claim 1, wherein the first group of messages, the second group of messages and the incoming message comprise messages from at least one of email messages, email attachments, and computer programs (Col. 5, lines 20-67).

15. As per claim 7, Aronson does not teach a method as in claim 1, wherein determining a vector corresponding to an incoming message comprises using singular value decomposition to generate the vector corresponding to the incoming message.

16. Bellgarda teaches the above section see for example pg 173. It would have been obvious to combine the two related references for the same rational as claim 1 above.

17. As per claim 8, Aronson does not explicitly teach a method as in claim 1, wherein comparing the

vector corresponding to the incoming message with at least one of the first semantic anchor and the second semantic anchor comprises determining an angle between the vector corresponding to the incoming message and at least one of the first semantic anchor and the second semantic anchor.

18. Bellgarda teaches the above section see for example, pg 173-174. It would have been obvious to combine the two related references for the same rational as claim 1 above.

19. As per claim 10, Aronson teaches a method as in claim 1, wherein comparing the vector corresponding to the incoming message with at least one of the first semantic anchor and the second semantic anchor to obtain a first comparison value and a second comparison value comprises permitting a user to decide whether the incoming message is from the first group of messages or from the second group of messages when the first comparison value is substantially equal to the second comparison value (see for example, Col. 10, lines 44-65, wherein the users has the option to go into the filter module to personally select which group the message(s) belong).

20. As per claim 11, Aronson teaches a method as in claim 10, wherein filtering the incoming message based on the first comparison value and the second comparison value comprises at least one of automatically filtering the incoming messages, and tagging the incoming message (Col. 5, lines 5-6, lines 50-67).

21. As per claim 12, Aronson teaches a method as in claim 11, wherein tagging the incoming message comprises at least one of tagging the incoming message with a first tag for a message corresponding with the first group of messages, tagging the incoming message with a second tag for a message corresponding with the second group of messages, and tagging the incoming message with a third tag when the first comparison value is substantially equal to the second comparison value (Col. 5, lines 5-6, lines 50-67).

22. As per claims 13-20, 22-24, claims 13-20, 22-24, are rejected for the same reasons as rejection to claims 1-8, 10-12 above respectively.

23. As per claims 25-32, 34-36, claims 25-32, 34-36 are rejected for the same reasons as rejection to claims 1-8, 10-12 above respectively.

24. As per claims 37-44, 46-48, claims 37-44, 46-48, are rejected for the same reasons as rejection to claims 1-8, 10-12 above respectively.

25. Claims 9, 21, 33, 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aronson et al. (hereinafter Aronson) in view of Bellegarda et al. (hereinafter Bellgarda), "A Novel Word Clustering Algorithm Based On Latent Semantic Analysis", 1996, in further view of 'Official Notice'.

26. As per claim 9, Aronson and Bellgarda does not explicitly teach a method as in claim 1, wherein comparing the vector corresponding to the incoming message with at least one of the first semantic anchor and the second semantic anchor comprises comparing the length of a normal between the first semantic anchor and the vector corresponding to the incoming message, and the length of a normal between the second semantic anchor and the vector corresponding to the incoming message. "Official Notice" is taken that the concept and advantages of providing for normalization is well known and expected in the art. It would have been obvious to one of ordinary skill in the art to include comparison of normalized length with Aronson and Bellgarda because it would provide for another method to compare the messages. Furthermore, this claim is not supported by the Specification, the specification merely mentioned the normalization procedure in passing, the comparing of normalization aspect is missing from the specification itself.

27. As per claims 21, 33, 45, claims 21, 33, 45 are rejected for the same reasons as rejection to claim

9 above.

Conclusion

28. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents and publications are cited to further show the state of the art with respect to "METHOD AND APPARATUS FOR FILTERING EMAIL".

i. US 6578025 Pollack et al.

ii. US 6701305 Holt et al.

iii. US 6192360 Dumais et al.

iv. US 5987446 Corey et al.

v. US 6816885 Vaithyanathan et al.

vi. US 6718368 Ayyadurai

vii. "strategies for filtering email messages combining content-based and sociological filtering with user stereotypes", Shoval et al. 1999

viii. "ProntoMail Professional Edition", Alwang, Greg, May 1998

ix. "Intelligent email management system", Tsai et al. 1999

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chad Zhong whose telephone number is (571)272-3946. The examiner can normally be reached on M-F 7:15 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, FOLLANSBEE A John can be reached on (571)272-3964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CZ
November 13, 2004

JOHN FOLLANSBEE
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